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THE FUTURE OF EU REGIONAL EMPLOYMENT AFTER MAASTRICHT

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ABSTRACT:

Employment policy in the Maastricht treaty is specially focused at educational and mobility measures but lacks of an enough developed perspective of a balanced regional development.

This issue is important because the harmonized regional growth is necessary to avoid interregional tensions and to go on the European integration process.

In this paper we show three possible scenarios of employment and unemployment at regional level in the EU-15, considering the effects of different territorial policies (industrial, transport) both at European and national levels.

KEY WORDS: Employment, regional growth, econometric models.

1. INTRODUCTION

The implementation of an employment policy in Europe cannot ignore its spatial component.

The present regional policy has aggravated the differences across the regions of Europe, as will be shown in the next pages. In this connection, ARMSTRONG (1995) found out that the process of convergence of less developed regions is slower than expected, and pointed out that proposals such as the Single Market and the Treaty of Union, "(...) do not guarantee further convergence since they combine both convergence promoting effects (e.g., a single currency) with divergence promoting effects (e.g., a distinctive pattern industrial dislocation)".

None policy based on subsidies will be able to overcome the present reality of
Europe, in whose periphery still persist regions with low employment rates and archaic employment structures (i.e. predominance of agrarian employment and services sectors of an insufficient dimension). As ABRAHAMJ and VAN ROMPUY (1995) said " not all peripheral regions benefited from the overall trend towards convergence". Looking for convergence among regions, SUAREZ-VILLA and CUADRADO (1993) studied the advantages of investment in less developed regions and peripheries, as the benefits of lower labour or production costs, the advantages of acceptable transports linkages or the advantages related to the possibility of having an international transport infrastructure which could made them competitive since a global standpoint.

We are not in favour of policies leading to the concentration of production activities and employment in the most dynamic areas, overcoming disequilibria through the mobility of population, as can happen according to WHITE and KNAPP (1994).

We want to demand the implementation of an active employment policy in which a harmonized regional growth can avoid the risk of an excesive budget burden over the European citizens in order to subsidise the poorest regions.

GUISÁN and CANCELO (1996) used an econometric model for 98 European regione in which they analyse the impact of several types of public expenditure on growth. In this paper they consider four different functions of public expenditure: non-market services, public works, family benefits and R&D expenditure. They conclude empathizing that the

way of encouraging a harmonized growth is through policies which lead to the growth of Industry and Market Services. In their opinion in order to increase the resources and the value added of the poorest regions, it is necessary to increase government spending and to favour a more spatially balanced distribution of investment of private manufacturers.

In section 3, we analysis the evolution of employment by branches of economic activity between 1985 and 1995 in the 98 European regions.

In section 4, we present sectorial and a non-agrarian econometric models for employment, in order to design, in the following section, 3 scenarios for employment and GDP per head in year 2005.

2. DATA.

We have used 1985, 1990, 1993 and 1995 data for the 98 European regions shown in the apendix. Several issues of the Statistical Yearbook of Regions published by Eurostat have been the main data source. Other sources have been Statistics in Brief by Eurostat and OCDE Labour Force Statistics.

Both for employment and value added, regional data have been broken down following the Eurostat R6 classification, which comprises the following branches:

R1: Agriculture: agricultural, forestry and fishing products.
R2: Energy: fuel and power products.
R3: Industry: industrial products.
R4: Construction: building and construction.
R5: Market services: all services but those included in R6.
R6: Non-market services: mainly services financed by public budgets like Public Administration, Public Health and Education. Eurostat also includes domestic services in this group.

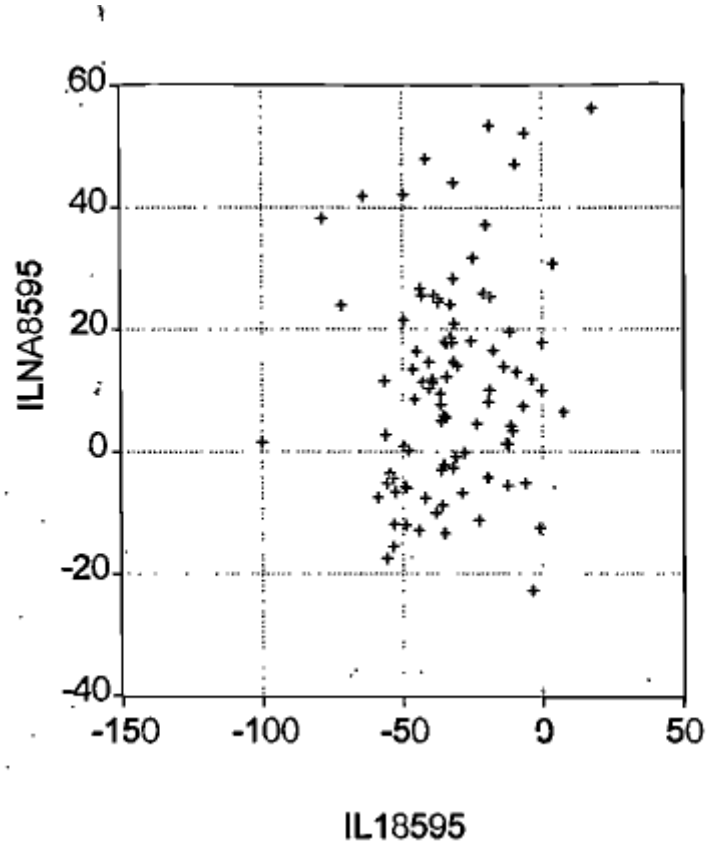
Missing data and political changes in Europe aroused a considerable amount of extra work for the completion of series. Unfortunately, it was impossible to obtain figures for the eastern landers of Germany, which would have shed light over the issue studied. It was

also impossible to obtain regional value added figures at R6 level of desegregation for 1995.

1995 labour data were available indirectly. In the Eurostat publication Statistics in Brief there was information concerning the total amount of employments and the percentage of employments in agriculture, industry and services in each region. Services employment was broken down in market and non-market services according to their respective shares in the services employment figures of 1993, or 1990 when the former were not available. Employment in the industrial sector was broken down following the shares of energy and manufacturing in total employment and computing construction employment as the rest. All the figures related to The Netherlands must be observed cautiously as Ducth data may not be very reliable.

3.-EVOLUTION OF EMPLOYMENT BY BRANCHES OF ACTIVITY

We have computed the agrarian employment variation percentage in the 98 European regions considered and we have rank them from smaller to bigger percentage of growth. First conclusion we draw from this ranking is that almost every region has lost agrarian employment in this decade, mostly due to the poor path followed by employment in the second subperiod 1990-1995, although in most of the cases this was balanced for the increment of non-agrarian employment.



In spite of the fact that there are a few regions with increases in agrarian employment (corresponding with regions where the share of agrarian over total employment was low, like Berlin or Bruxelles), most of them have undergone substantial losses of agrarian employment. In the extreme it is the case of the Balearic Isles that had a reduction of 78%.

It is meaningful the big loss of jobs in the Italian regions. In Abruzzi and Veneto, the scarce increment of employments in other branches of economic activity was not enough to balance the losses of the agrarian sector. The other regions of Italy had even a worse situation, having undergone losses of non-agrarian jobs. There were other regions where employment followed a path similar to that of Abruzzi, like Galicia and Castilla y Leon in Spain, Alentejo+Algarve in Portugal and Saarland in Germany.

Moreover, some regions of France like Basse-Normandie, Limousinne, Nord-Pas-de-Calais, Champagne-Ardenne, Auverne y Corse had decreases in the number of

employment agrarian and non-agrarian, and also had Hamburg and Bremen in Germany, the South-East of England and Asturias in Spain.

Finally, there are regions where the increment of non-agrarian employments more than compensated for the losses of agrarian employments. In this conection, there are some that stand out like Bayern, Nordrhein-Westfalen or Baden-Wüttenberg in Germany, South-West of England and Madrid and Cataluña in Spain. We also found out that these where the group of regions, specially the German ones, where population grew more strongly within the European Union.

EVOLUTION OF EMPLOYMENT IN AGRICULTURE (1)
(Percentage of growth 1985-1995)

	Mean	Maximum	Minimum
SPAIN	-40.3	3.9	-78.3
DENMARK	-34.6	-34.6	-34.6
ITALY	-42.7	-6.1	-58.9
GERMANY	-29.3	-0.9	-48.0
BELGIUM	-42.2	-10.4	-100
THE NETHERLANDS	-4.0	18.0	-18.5
LUXEMBOURG	-12.0	-12.0	-12.0
IRELAND	-11.4	-11.4	-11.4
UNITED KINGDOM	-11.6	7.5	-27.8
PORTUGAL	-54.1	-31.5	-71.6
GREECE	-23.5	-19.7	-30.2
FRANCE	-31.5	-3.6	-54.7
E.E.C.12.	-32.36	18.0	-100

Losses of agrarian employment reached an average of 40% for the Spanish regions in the years considered, around this average percentage are located regions like Castilla y Leon, Galicia and the Canary Isles. In the Canaries, employments were lost basically in the first subperiod (1985-1990), whereas Galicia followed a trend, in both subperiods, similar to the Spanish regional average. Despite a substancial loss of agrarian employments, Galicia

keeps on the first place in the European ranking for the share of agrarian over total employment. Differences among Spanish regions are considerable. The only region with a growth in agrarian employment was Murcia, due to the high rise of employment in the 90´s, which more than compensated the employments lost between 1985-1990. None of the other had a decrease of employments below 31%. The higher decreases were those of the Balearic Isles, Cantabria and Asturias, with percentages around 55%.

Denmark showed continuous decreases in the level of agrarian employment, higher in the nineties.

In Italy, as in the other European countries considered, the regional average of agrarian employment variation was negative, with figures close to those of the Spanish regions. The lowest decrease was the one corresponding to Sardegna, due to the increment of jobs in the period between 1985 and 1990, Lombardia was the next with only a 19% of jobs less. On the other hand, Toscana was the regions where more agrarian jobs disappeared, followed by Abruzzi and Liguria.

We decided to exclude in our agrarian employment analysis Berlin data, where this branch of activity has small relevance, due to the fact that its consideration would have adversely affected the quality of the German regional mean. The lowest level of employment destruction in agriculure in West Germany between 1985 and 1990 was the one corresponding to Bremen (-0,95%), followed by the one corresponding to Nordrhein-Westfalen (-3,7%). On the contrary, the biggest losses of agrarian employment were those of Saarland (due to the decrease between 1985 and 1990) and Baden. The mean figure reached along this decade can be explained mostly for the losses of jobs happened in the first subperiod. In fact, in the nineties the tendency of agrarian employment was quite auspicious, even there were regions where employment grew substancially, like Hessen or Saarland.

Belgian figures must be observed cauteously as although the porcentage of decrease of agrarian employment is high, this branch of activity has scarce weight in the economy of its regions. In fact, in Bruxelles was almost none in 1995.

Both, Luxembourg and Ireland, had similar negative rates of growth of agrarian employment in the interval considered. Nevertheless, the number of jobs lost was bigger in Ireland than in Luxembourg, as it is bigger the weight of agriculture in the economy and the size of the economy. Anyway, it is important to emphazise the increment of total employment in Ireland along the decade, and the considerable substitution of agrarian for non-agrarian jobs in the 90´s.

In the British regions bigger and bigger decreases of agrarian employments took place along the decade. Nevertheless, there were important differences among the regions: agrarian employment grew in West Midlands, and the South East reached the highest percentage of destruction of agrarian jobs.

Every region in Greece and Portugal, but Lisboa e V. Tejo, have an important share of agrarian employment in total employment. In the extreme are Centro Portugal with a share of 24% and Voreia Ellada with a share of 29% in 1995 (only Galicia is over these figures), however in all these regions the trend is to decrease the weight of agriculture in their economies. This tendency was stronger in the Portuguese regions than in their Greek counterparts. There also was a substantial growth in the number of non-agrarian employments in the regions of both countries, which was more than enough to balance the losses of jobs in the agriculture. Only the weak growth of employment in the first subperiod in the Alentejo+Algarve had as a result the estimated loss of 2,000 jobs between 1985 and 1995.

The lowest deacrese of agrarian employment in France along this decade was that of Corse, the region with the higest weight of agriculture in its economy among the French regions, this was due to the surprising fact that many agrarian jobs were created in the nineties at the same time that many employments disappeared in the other branches of activity. On the contrary, Basse-Normandie showed the biggest decrease of agrarian employment, whereas the porcentaje of variation of Alsace, Poitou-Charentes, Champagne and Aquitania was positioned close to the French regional mean.

EVOLUTION OF EMPLOYMENT IN ENERGY INDUSTRY (2)
(Percentage of growth 1985-1995)

	Mean	Maximum	Minimum
SPAIN	-11.7	35.8	-47.4
DENMARK	-5.0	-5.0	-5.0
ITALY	-14.6	17.9	-32.5
GERMANY	-5.7	31.3	-32.5
BELGIUM	-24.6	-2.0	-52.6
THE NETHERLANDS	-18.9	9.2	-60.9
LUXEMBOURG	-21.0	-21.0	-201.0
IRELAND	-31.1	-31.2	-31.2
UNITED KINGDOM	1.5	16.5	-6.3
PORTUGAL	5.4	33.3	-5.4
GREECE	-12.7	-6.1	-17.9
FRANCE	-7.5	16.7	-42.4
E.E.C.12.	-9.3	35.8	-60.9

Countries´averages of regional growth of employment were negative in all the countries of Europe, except in the United Kingdom and Portugal in the period between 1985 and 1995. Irish and Belgian regions reached in these years the highest decrease rates of the E.U. In spite of this decreasing tendency, there were high rates of growth in energy employment in some Spanish, Italian or German regions, like the Canaries, Comunidad Valenciana, Abruzzi, Hambourg and Hessen. Destruction of jobs in the energy sector was stronger in the period 1990-1995 when most of European regions lost employments. The exceptions were the Portuguese, British and Greek ones that increased the number of employments in a 17.4%, 8.9% and 5.3%, respectively.

The exhaustion of some mining sites has had an enormous effect in the economy of some regions in which employments connected with the energy industry are an important part of total employment. This is the problem of Asturias and Castilla y León, where the depletion of the coal mines is having a considerably depressing effect over their economies.

EVOLUTION OF EMPLOYMENT IN MANUFACTURING (3)

(Percentage of growth 1985-1995)

	Mean	Maximum	Minimum
SPAIN	0.5	23.1	-26
DENMARK	-4.9	-4.9	-4.9
ITALY	-12.1	142.2	-38.3
GERMANY	3.4	32.6	-14.9
BELGIUM	-12.5	-2.9	-21.4
THE NETHERLANDS	23.5	48.9	-6.3
LUXEMBOURG	-25	-25	-25
IRELAND	31.4	31.4	31.4
UNITED KINGDOM	6.8	16.6	-4.3
PORTUGAL	4.6	22.7	-7.2
GREECE	12.8	43.2	-5.6
FRANCE	-4.1	13.9	-27.1
E.E.C.12.	-0.9	142.2	-38.3

Although the average growth of employment in manufacturing of the European regions was negative, there was a big diversity of situations among the regions of the countries of Europe. There were high increases of employment in the regions of Ireland, The Netherlands and Greece, moderate increments in the British, Portuguese, German and Spanish ones, and finally substantial decreases in the regions of France, Denmark, Italy, Belgium and Luxembourg. As a regional average, employment increased in this branch of activity in Europe between 1985 and 1990 and decresed between 1990 and 1995. This timing was also followed by the regions of Spain, Italy, Germany and The Netherlands. Irish and Greek regions followed a continuous growing path along the two intervals considered and employment decreased in the first subperiod and grew in the second in the regions of The United Kingdom, Portugal, France and Denmark.

The higher increases of employment in manufacturing were located in Abruzzi, West-Nederland, Anatolika Kai Notia Nisia, Scheleswig-Holstein, Ireland, Oost Nederland and Murcia, whereas the higher decreased where in Valle de Aosta, Sicilia, Liguria, Campania, Corse, Basilicata and Calabria.

EVOLUTION OF EMPLOYMENT IN CONSTRUCTION (4)
(Percentage of growth 1985-1995)

	Mean	Maximum	Minimum
SPAIN	49.6	115.6	-11.8
DENMARK	11.3	11.3	11.3
ITALY	25.9	172.6	-41.8
GERMANY	-1.6	41.6	-66.1
BELGIUM	14.5	15.3	12.9
THE NETHERLANDS	73.9	147.2	-61.2
LUXEMBOURG	-21.7	-21.7	-21.7
IRELAND	-11.1	-11.1	-11.1
UNITED KINGDOM	-30.9	15.8	-76.2
PORTUGAL	11	27.3	-5.1
GREECE	-31.4	-20.1	-46.7
FRANCE	-27.1	17.1	-80.6
E.E.C.12.	6.9	172.6	-80.6

The average evolution of employment in construction was positive in the European regions throughout all the period considered. However, this was not the general tone of every country´s regional average. In fact, on the one hand there were significant increments in the number of employments in the regions of The Netherlands, Spain and Italy whereas on the other hand many regions of Greece, United Kingdom and France lost a substantial amount of jobs.

Employment followed a consistent growing path in the first subperiod (1985-1990) and a weaker trend in the second one (1990-1995), but for the regions of Italy, Belgium and Portugal.

Some Italian regions like Piemonte and Trentino and some Spanish ones like Extremadura, Murcia and Madrid stand out for the big increases of employments in construction in this period. On the other hand, rather important losses of jobs happened in the French regions of Champagne-Ardenne, Auvergne, Ille de France and in the British region of West Midlands.

EVOLUTION OF EMPLOYMENT IN MARKET SERVICES (5)
(Percentage of growth 1985-1995)

	Mean	Maximum	Minimum
SPAIN	21.8	49.7	6.3
DENMARK	8.0	8.0	8.0
ITALY	-8.5	5.16	-21.0
GERMANY	29.4	51.8	-6.9
BELGIUM	8.8	15.5	2.0
THE NETHERLANDS	43.7	60.0	34.6
LUXEMBOURG	15.5	15.5	15.5
IRELAND	-2.1	-2.1	-2.1
UNITED KINGDOM	17.1	25.3	4.7
PORTUGAL	65.7	82.7	38.8
GREECE	46.1	62.4	26.6
FRANCE	17.8	37.5	-11.9
E.E.C.12.	17.6	82.7	-21.0

Market services employment increased in the regions of Europe between 1985 and 1995. This increase was stronger in the period between 1985 and 1990 than in the interval between 1990 and 1995. Portuguese and Greek regions were the places where employment grew at higher rates. There were also high rates of growth of employment in this branch of activity in some regions of Germany (Scheleswig-Holstein, Rheinland-Pfalz, Berlin, Bayern,...) and Spain (Canaries, Balearic Isles, Catalonia, Andalusia, Murcia...). The average growing rate of French regions was close to the European Union average, although there were considerable differences among them. Corse lost employments whereas Rhöne-Alpes increased them over 25%. All the other country's averages are well over the fatidic 0.0% but the Italian and Irish ones. Italian regions lost employments in market services during the period between 1990 and 1995, although they had followed a weak growing

tendency in the first subperiod considered. Ireland lost of employments ocurred during the first subperiod, and despite an increment of 20.0% in the second one the whole result was a destruction of employments.

EVOLUTION OF EMPLOYMENT IN NON-MARKET SERVICES (6)
(Percentage of growth 1985-1995)

	Mean	Maximum	Minimum
SPAIN	30.8	58.5	17.1
DENMARK	8.5	8.5	8.5
ITALY	-9.0	6.9	-24.2
GERMANY	11.4	27.1	-12.1
BELGIUM	3.5	9.5	-3.2
THE NETHERLANDS	120.4	176.5	71.6
LUXEMBOURG	12.5	12.5	12.5
IRELAND	79.8	79.8	79.8
UNITED KINGDOM	14.2	24.0	2.7
PORTUGAL	59.1	89.0	31.4
GREECE	46.2	65.0	32.7
FRANCE	14.1	32.0	-19.1
E.E.C.12.	19.4	176.5	-24.2

Finally, there was an increase of employments in the non-market services branch of activity. In this case, the growth of employment was also stronger in the first subperiod, although during the second period the growth was still substantial: 6.2%. It was in the regions of Ireland, Portugal, Greece and Spain where more jobs were created, with rates of growth of employment considerably over the European Union average. Italian regions also lost employments in this branch of activity in the second of the superiods considered (1990-1995). Although it was not so consistently in the northern regions as in the case of

the market sector in the southern ones, Friuli-Venezia Giulia, Trentino-Alto Adige, Liguria, Emilia-Romagna, Toscana, Piemonte lost more than a 10% of jobs. All the countries considered but Belgium, that increased employment a 3.5%, increased the number of jobs in this branch more than 10.0%.

4.- ECONOMETRIC MODELS

Sectoral models

First of all, we have estimated six equations, with the object of analysing the influence of sectorial GDP over employment, using cross-sectional data corresponding to 98 European regions in 1990, in which we have included sectorial GDP, population and lagged employment as explanatory variables. We have also included some dummy variables in order to take into account positive and negative regional effects.

L190 = - 0.067050515 - 32.784187*DN1 + 18.729134*DP1 +1.2223947*GDP190 + +0.66471952*POP90 + 0.79769576*L185

R^2=0.99 DW=1.19

L290 = - 0.16220821 - 4.5779699*DN2 + 4.183242*DP2 + 33.738689*D2NW+ +0.62284866*GDP290 + 0.49175207*POP90 + 0.77172883*L285

R^2=0.99 DW=1.53

L390 = - 1.5386073 - 76.66142*DN3 + 147.05935*DP3 - 274.89138*D3PAR + +11.150485*GDP390 + 4.8261938*POP90 + 0.43144887*L385

R^2=0.99 DW=1.32

L490 = 1.4764089 - 22.490624*DN4 + 43.500542*DP4+ 5.5498981*GDP490 + +11.249335*POP90 + 0.39580634*L485

R^2=0.99 DW=1.67

L590 =- 8.6022074 - 99.619905*DN5 + 184.78695*DP5+ 3.1532375*GDP590 + +29.127941*POP90 + 0.75285411*L585
R^2=0.99 DW=1.77

L690 =- 2.1189907 - 49.932718*DN6 + 62.430136*DP6 + 1.1844512*GDP690 + +15.99897*POP90 + 0.8301281*L685
R^2=0.99 DW=1.78

The goodness of fit is excellent in the six equations, with R-squared around 0.99, and all the t-statistics are higher than 1.96, showing that the corresponding parameters are different from zero and that the variables have a significant effect.

We can observe the relevance of the employment structure of the regions in order to explain the employment in every sector, as it is captured for the estimated parameters of the lagged endogenous variables. As it was expected a priori population also has a positive influence over employment.

The following table illustrate the influence of variations in sectorial GDP (a thousand of millions of US$) over employment (thousand of employments) in the same branch of activity in the short and long run, supposing that population remains invariable. Permanent effect was computed as the ratio between the coefficient of GDPi and the difference: (1 - the coefficient of Li85).

Value added		
	Short run effect	Permanent effect
Sector 1	1.22	6.04
Sector 2	0.62	2.72
Sector 3	11.15	19.61
Sector 4	5.54	9.18
Sector 5	3.15	12.75
Sector 6	1.18	6.96

Model for Non-Agrarian Sectors

Secondly, we estimated an equation to forecast non-agrarian employment in which non agrarian employment per head was explained by the lagged value of this same variable and the increment of non-agrarian production per head.

$LNA90H = 66.74387*10^{-6} + 0.77231712*LNA85H + 0.015454854*(GPDNA90H-GPDNA85H)$
$R^2=0.90$ DW=0.78

The equation presents a high goodness of fit and all the parameters are significative at 5%. The influence of both variables is positive as expected.

We have estimated alternative models in which the variables were in levels instead of in terms per head, however the previous one showed a better adjustment.

Dependent and explanatory variables:

Li90 Employment in sector number i of economic activity in 1990 (in thousand of employees).
LNA90H Employment per inhabitant in non-agrarian sectors of economic activity in 1990 (employees per thousand inhabitants).
GDPi90 Gross domestic product in sector i of economic activity (in thousand of millions of 1990 US$ using 1990 exchange rates).
(GPDNA90H-GPDNA85H) Increment of Gross Domestic Product per head in non-agrarian sectors of economic activity (in thousand of 1990 US$ per head)
POP90 Population in 1990 (in millions of people).
Li85 Employment per inhabitant in non-agrarian sectors of economic activity in 1985 (employees per thousand inhabitants).
LNA85H Employment per inhabitant in non-agrarian sectors of economic activity in 1985 (employees per thousand inhabitants).
DPi Dummy variable corresponding to regions with positive effect in equation i. (Its value is one in the regions with an employment in sector i higher than expected according to the other variables, and nought otherwise).

DNi Dummy variable corresponding to regions with negative effect in equation i. (Its value is one in the regions with an employment in sector i lower than expected according to the other variables, and nought otherwise).
D2NW Dummy variable whose value is one in the region 43, Nordheim-Westfalen.
D3PAR Dummy variable whose value is one in the region 77, Île de France.

5.- EMPLOYMENT SCENARIOS

We propose three different scenarios for employment in the European regions after Maastrich. Employment projections for the year 2005 are made, as we think that eight years is a minimum time span to perceive the consequences of different employment policies.

We make scenarios for the output of the non-agrarian branches of economic activity in the year 2005.

When the tendency between 1980 and 1990 was to increase the population, we make the hypothesis that population will increase until 2005 at that rate. Whether this tendency was to loose population, we propose that 2005 population will be the same that in 1990.

PESIMISTIC SCENARIO. First of all, we take into account a pesimistic situation in which non-agrarian GDP per head grows at the German rate of growth of non-agrarian GDP per head between 1985 and 1990 (representing the lowest rates of growth in this sector in the European countries in this period-GUISAN 1995). When regional rates were lower than the German rate we considered the rate of growth corresponding to the region or a rate zero if it was negative.

BASIC SCENARIO. Secondly, we consider a basic scenario in which there is a convergence towards the average employment per head in the regions of the Community in year 1995. We assume that the least dynamic regions will grow at its own rate, and the most dynamic will grow at an intermediate rate between those defined in the other scenarios.

OPTIMISTIC SCENARIO. Thirdly, we consider an optimistic scenario in which non agrarian GDP per head continues to grow in every region at the same rate that they grew between 1985-1990 when the tendency was positive. Otherwise, we suppose that there is a stagnation in terms of GDP per head.

In the previous section we present a regression equation in which non-agrarian employment per head can be explained by the increment of non-agrarian GDP per head and the lagged value of the endogenous variable.

Based in this non-agrarian GDP and population projections, we estimated the non-agrarian employment in the regions in the year 2005, that are presented below.

PROJECTIONS OF NON-AGRARIAN EMPLOYMENT 2005

(Employees per 1000 inhabitants. Average of regional values for each country.)

	1990	*Pesimistic Scenario*	*Basic Scenario*	*Optimistic Scenario*
SPAIN	300	302	352	386
DENMARK	464	466	473	479
ITALY	362	343	383	405
GERMANY	445	438	491	536
BELGIUM	434	436	482	514
THE NETHERLANDS	401	395	430	464
LUXEMBOURG	480	407	504	601
IRELAND	271	328	379	430
UNITED KINGDOM	394	404	431	458
PORTUGAL	288	358	385	412
GREECE	249	293	303	303
FRANCE	343	354	380	398
E.E.C.12	359	362	399	427
USA	461	_	_	_
JAPAN	532	_	_	_

As can be observed, the situation of Europe in relation to employment per head is high below that of the US and Japan. Even with the most optimistic of the hypothesis presented Europe does not reach the figure of USA in 1990, nothing to say about the Japanese.

However this fact is rather deceptive as there are big differences among countries. In fact, in 1990 Denmark and Luxembourg had rate of employment over total population higher than the American. Although the Belgian and German were below this figure were substantially over the UE mean.

According to the basic scenario, in addition to Denmark and Luxembourg, only would reach the American 1990 ratio Germany and Belgium. In the best of the situation considered, The Netherlands would join the selective club.

In any case, the poorest countries continue to be those in which there is less employment per head. Therefore, whether Europe wants to reach the standards of living of its commercial counterparts must do a serious effort in increasing the employment per head, not only in the central areas of Europe but in all the parts of its territory.

The number of non-agrarian employments in Europe in 1995 were 125 millions of persons. In accordance with our scenarios Europe will have in 2005, 129 millions of employments in the pesimistic, 143 millions in the basic and 155 millions in the optimistic hypothesis.

In 1995, there were 16 millions of unemployed and approximately an excess of 3 millions of workers in the agriculture in Europe. Accordingly, in our basic and optimistic hypothesis would be created more employments than those required to compensate the unemployment.

6.- CONCLUSIONS.

1. Almost every region has lost employment in the agrarian sector between 1985 and 1995. This is trend will continue as less developed regions have agriculture sectors with very low average productivities.

2. The evolution of employment was better during the subperiod 1985-1990, than between 1990-1995 for all the non-agrarian sectors in most of the regions.

3. Employment in manufacturing industry, although the situation was diverse among regions, was stagnated. The average percentage of growth of the European regions was the -0.9% during this period.

4. In the Services sector- market and non-market- there was a substantial increment in the number of employments in the regions of Europe. The percentages of growth in this decade were the 17 and the 19%, respectively.

5. We observe the importance of the employment structure of the regions in order to explain the employment in every sector. The GDP of the sector and population also have a positive influence over employment.

6. We also analysed in this paper the importance that the growth in industrial GDP has over GDP and employment in the other sectors. (GUISAN 1995 and GUISAN&FRIAS 1995).

7. According to our projections for the European regions in the 2005 there will be an increment of 4, 18 and 30 millions of employments in the pesimistic, basic and optimistic scenarios, respectively. As there were 16 millions of unemployed and approximately an excess of 3 millions of workers in the agriculture, in our basic and optimistic hypothesis would be created more employments than those required to compensate the present unemployment.

8. Our basic hypothesis is in close to the proposals of Delors and to the last OCDE perspectives for employment in Europe that foresee a 0.5% yearly rate of decrease of unemployment until the year 2005.

9. It is very important to increase the industrialization of poorest regions in order to reach in Europe a level of non-agrarian employment and GDP per head similar to the US and Japan. It is also important to improve the transport links as ARGIMON (1997) has

demonstrated for Spain. A good transport network is a critical factor to decide the location of industrial enterprises (NETHERLAND ECONOMIC INSTITUTE (1993)), and the location of industry is a main element to increment the employment in the peripheral regions of Europe (GUISAN, CANCELO & DIAZ(1997)).

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APENDIX

PROJECTIONS OF NON-AGRARIAN EMPLOYMENT 2005 *Basic scenario*

(Employments by 1000 inhabitants)

	Mean	Maximum	Minimum
SPAIN	352	444	282
DENMARK	473	473	473
ITALY	383	458	290
GERMANY	491	566	418
BELGIUM	482	685	356
THE NETHERLANDS	430	473	385
LUXEMBOURG	504	504	504
IRELAND	379	379	379
UNITED KINGDOM	431	476	373
PORTUGAL	385	445	329
GREECE	303	313	294
FRANCE	380	509	309
E.E.C.12	399	605	282

PROJECTIONS OF NON-AGRARIAN EMPLOYMENT 2005 *Pesimistic scenario*
(Employments by 1000 inhabitants)

	Mean	Maximum	Minimum
SPAIN	302	363	239
DENMARK	466	466	466
ITALY	343	413	259
GERMANY	438	507	402
BELGIUM	436	602	339
THE NETHERLANDS	395	410	384
LUXEMBOURG	407	407	407
IRELAND	328	328	328
UNITED KINGDOM	404	434	359
PORTUGAL	358	397	327
GREECE	293	313	276
FRANCE	354	423	243
E.E.C.12	362	602	239

PROJECTIONS OF NON-AGRARIAN EMPLOYMENT 2005. *Optimistic scenario*
(Employments by 1000 inhabitants)

	Mean	Maximum	Minimum
SPAIN	386	550	273
DENMARK	479	479	479
ITALY	405	502	290
GERMANY	536	670	435
BELGIUM	514	725	374
THE NETHERLANDS	464	546	385
LUXEMBOURG	601	601	601
IRELAND	430	430	430
UNITED KINGDOM	458	518	387
PORTUGAL	412	494	329
GREECE	303	314	295
FRANCE	398	595	243
E.E.C.12	427	725	243

EUR-98

1 Galicia
2 Asturias
3 Cantabria
4 País Vasco
5 Navarra
6 Rioja
7 Aragón
8 Madrid
9 Castilla y León
10 Castilla-Mancha
11 Extremadura
12 Cataluña
13 Comunidad Valenciana
14 Baleares
15 Andalucía
16 Murcia
17 Canarias
18 Denmark
19 Piemonte
20 Valle d´Aosta
21 Liguria
22 Lombardía
23 Trentino-Alto Adige
24 Veneto
25 Friuli-Venezia Giulia
26 Emilia Romagna
27 Toscana
28 Umbría
29 Marche
30 Lazío
31 Campania
32 Abruzzi
33 Molise
34 Puglia
35 Basilicata
36 Calabria
37 Sicilia
38 Sardegna
39 Scheleswig-Holstein
40 Hamburg
41 Niedersachsen
42 Bremen
43 Nordrhein-Westfalen
44 Hessen
45 Rheinland-Pfalz
46 Baden-Wüttenberg
47 Bayern
48 Saarland
49 Berlin
50 Vlaams Gewest
51 Region Wallomme
52 Bruxelles
53 Noord-Nederland
54 Ost-Nederland
55 West-Nederland
56 Zuid-Nederland
57 Luxembourg
58 Ireland
59 Norh U.K.
60 Yorkshire and H.
61 East Midlands
62 East Anglia
63 South-East
64 South-West
65 West-Midlands
66 NorthWest
67 Wales
69 NorthernIreland
70 Norte Portugal
71 Centro Portugal
72 Lisboa e V. Tejo
73 Alentejo + Algarve
74 Voreia Ellada
75 Kentriki Ellada
76 Anatolika Kai Notia Nisia
77 Ille-de-France
78 Champagne-Ardenne
79 Picardie
80 Haute-Normandie
81 Centre
82 Basse-Normandie
83 Bourgogne
84 Nord-Pas-de-Calais
85 Lorraine
86 Alsace
87 Franche-Comté
88 Pays de la Loire
89 Bretagne
90 Poitou-Charentes
91. Aquitaine
92. Midi-Pyrénées
93. Limousin
94. Rhöne-Alpes
95. Auvergne
96. Languedoc-Rousillon
97. Provence-Alpes-Côte d´Azur
98. Corse